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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,754	NAKAZAWA ET AL.	
	Examiner	Art Unit	
	Paul Masur	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-71* is/are pending in the application.

4a) Of the above claim(s) *1-47 and 63* is/are withdrawn from consideration.

5)☒ Claim(s) *64-67 and 69* is/are allowed.

6)☒ Claim(s) *48-63,68,70 and 71* is/are rejected.

7)☒ Claim(s) *52-54* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on *29 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03/29/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

2. **Claims 52-54 are objected to because of the following informalities:** the claim language for the last limitation of claim 52 recites “in accordance with en encoding system”. Instead this should recite “in accordance with an encoding system.”

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 48, 56, 58, & 68 are rejected under 35 U.S.C. 102(e) as being anticipated by Cooklev (US Patent No. 6,574,218).

5. **As per claim 48,** Cooklev teaches a gateway apparatus for conducting connection between a first communication network and a second communication network of respective different types [Cooklev, fig. 2, elements 102, 104, & 108, column 5, lines 21-25, "Since the real time multimedia data is ultimately destined for a client that accesses the packet-switched network via a direct dialup network, the packet-switched network must interface with a gateway that is coupled to the circuit-switched network", The gateway connects a PSTN (circuit-switched network) to a packet-switched network.], said apparatus comprising:

decision means for deciding on whether data from at least one of said first and second communication networks has been delayed in arrival or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, “The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los”, The packet processor decides if there is delay (out of order) or packet loss.]; and

control means for performing control so that, if the result of said decision indicates that the data from at least one of said first and second communication networks has been delayed in arrival or lost, data for causing a destination terminal of transmission on the other communication network to execute error concealment processing is generated or data acquired is discarded [Cooklev, fig. 5, column 9, element 710, column 9, lines 47-51, “Upon detection of a lost packet, the packet

processor 704 determines the importance of the lost packet. If the lost packet is "important," the missing packet reconstruction block or process 710 tries to recover a lower-quality version of the lost data from other packets", If the packet is lost and deemed important, then the error concealment process begins to replicate a low quality version of the lost packet.].

6. **As per claim 56,** Cooklev teaches a method for processing encoded data by a gateway apparatus for conducting connection between a first communication network and a second communication network of respective different types [Cooklev, fig. 2, elements 102, 104, & 108, column 5, lines 21-25, "Since the real time multimedia data is ultimately destined for a client that accesses the packet-switched network via a direct dialup network, the packet-switched network must interface with a gateway that is coupled to the circuit-switched network", The gateway connects a PSTN (circuit-switched network) to a packet-switched network.], said method comprising:

(a) a step of said gateway apparatus deciding on whether data from at least one of said first and second communication networks has been delayed in arriving or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, "The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los", The packet processor decides if there is delay (out of order) or packet loss.]; and

(b) a step of said gateway apparatus generating data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired, in case the result of said decision indicates that data from at

least one of said first and second communication networks has been delayed in arrival or lost [Cooklev, fig. 5, column 9, element 710, column 9, lines 47-51, “Upon detection of a lost packet, the packet processor 704 determines the importance of the lost packet. If the lost packet is "important," the missing packet reconstruction block or process 710 tries to recover a lower-quality version of the lost data from other packets”, If the packet is lost and deemed important, then the error concealment process begins to replicate a low quality version of the lost packet.].

As per claim 58, Cooklev teaches the method for processing encoded data by a gateway apparatus according to claim 56. Cooklev also teaches wherein said first communication network is a packet-switched network [Cooklev, fig. 2, element 102, column 6, line 62, “A packet network 102”] and said second communication network is a line-switched network [Cooklev, fig. 2, element 108, column 6, lines 65-66, “a circuit-switched network such as PSTN 108”, The circuit switched network (or PSTN) is a line-switched network.];

said method further comprising:

(a2) a step of said gateway apparatus deciding on whether encoded data from said packet-switched network has been delayed in arrival or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, “The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los”, The packet processor decides if there is delay (out of order) or packet loss.]; and

(b2) a step of said gateway apparatus generating data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired in case the result of said decision indicates that the encoded data from said packet- switched network has been delayed in arrival or lost [Cooklev, fig. 5, column 9, element 710, column 9, lines 47-51, “Upon detection of a lost packet, the packet processor 704 determines the importance of the lost packet. If the lost packet is "important," the missing packet reconstruction block or process 710 tries to recover a lower-quality version of the lost data from other packets”, If the packet is lost and deemed important, then the error concealment process begins to replicate a low quality version of the lost packet.].

7. **As per claim 68,** Cooklev teaches a method for processing encoded data from at least one communication network out of a line-switched network and a packet-switched network to the other communication network in a gateway system conducting connection between said line-switched network and said packet-switched network of respective different types [Cooklev, fig. 2, elements 102, 104, & 108, column 5, lines 21-25, "Since the real time multimedia data is ultimately destined for a client that accesses the packet-switched network via a direct dialup network, the packet-switched network must interface with a gateway that is coupled to the circuit-switched network", The gateway connects a PSTN (circuit-switched network) to a packet-switched network.], said method comprising:

in case encoded data from at least one of said line-switched network and the packet-switched network has been delayed in arriving or lost [Cooklev, fig. 5, element

704, column 9, lines 39-43, “The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los”, The packet processor decides if there is delay (out of order) or packet loss.], performing processing for generating data for causing a destination terminal of transmission on the other communication network to execute error concealment processing, or discarding the encoded data acquired to send said encoded data [Cooklev, fig. 5, column 9, element 710, column 9, lines 47-51, “Upon detection of a lost packet, the packet processor 704 determines the importance of the lost packet. If the lost packet is "important," the missing packet reconstruction block or process 710 tries to recover a lower-quality version of the lost data from other packets”, If the packet is lost and deemed important, then the error concealment process begins to replicate a low quality version of the lost packet.].

8. **As per claim 70,** Cooklev teaches a gateway apparatus for connecting a packet-switched network and a line-switched network [Cooklev, fig. 2, elements 102, 104, & 108, column 5, lines 21-25, "Since the real time multimedia data is ultimately destined for a client that accesses the packet-switched network via a direct dialup network, the packet-switched network must interface with a gateway that is coupled to the circuit-switched network", The gateway connects a PSTN (circuit-switched network) to a packet-switched network.], comprising:

an encoding data extracting unit which, if packets are not received from said packet-switched network at a preset period such that packet delay has been produced, and encoded data are to be extracted from packet data received [Cooklev, fig. 5,

element 704, column 9, lines 41-44, “The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet loss. The packet processor 704 performs, if necessary, packet re-ordering”, Since the packet number extracts the number of packets in the buffer and is capable of reordering them, it uses the counted of the data in the buffer to perform these operations.], outputs a signal to the effect that packet data has failed to be acquired [Cooklev, fig. 5, “Lost Important Packet”, This step proceeds to the missing packet re-constructor.]; and

a controller which generates or discards encoded data based on an output from said encoding data extracting unit to perform control for outputting encoded data to said line-switched network [Cooklev, fig. 5, column 9, element 710, column 9, lines 47-51, “Upon detection of a lost packet, the packet processor 704 determines the importance of the lost packet. If the lost packet is "important," the missing packet reconstruction block or process 710 tries to recover a lower-quality version of the lost data from other packets”, If the packet is lost and deemed important, then the error concealment process begins to replicate a low quality version of the lost packet.].

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 49-55, 57, 59-62, & 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooklev (US Patent No. 6,574,218) in view of Joseph et al. (US Patent No. 6,973,024).

11. **As per claim 49,** Cooklev teaches the gateway apparatus according to claim 48. Cooklev also teaches wherein

said first communication network is a line-switched network [Cooklev, fig. 2, element 108, column 6, lines 65-66, "a circuit-switched network such as PSTN 108", The circuit switched network (or PSTN) is a line-switched network.]; and

said second communication network is a packet-switched network [Cooklev, fig. 2, element 102, column 6, line 62, "A packet network 102"].

Cooklev et al. does not teach wherein said apparatus comprises: first decision means for deciding on whether encoded data from said line-switched network has been delayed in arrival or lost; and first control means for performing control so that, if the result of said decision indicates that said encoded data has been delayed in arrival or lost, encoded data for causing a destination terminal of transmission on said packet-switched network to execute error concealment processing is generated or the encoded data acquired is discarded.

However, Joseph et al. teaches wherein said apparatus comprises: first decision means for deciding on whether encoded data from said line-switched network has been delayed in arrival or lost [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52, "A revertive switchover is a switchover that takes place after standby modem element 22 has been switched into service due to a failure of main modem element 24", Once a

modem has failed, data coming from the PSTN will be lost. In response to this, a switch is made from one modem to another.]; and

first control means for performing control so that, if the result of said decision indicates that said encoded data has been delayed in arrival or lost, encoded data for causing a destination terminal of transmission on said packet-switched network to execute error concealment processing is generated or the encoded data acquired is discarded [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, "The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a failure can be detected, some data may be lost during the switchover time", Since modem failure caused the switchover, some data will be lost as a result.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52 & 60-64] in the analogous art of media gateways.

12. **As per claim 50,** Cooklev teaches the gateway apparatus according to claim 48. Cooklev also teaches wherein

said first communication network is a line-switched network [Cooklev, fig. 2, element 108, column 6, lines 65-66, “a circuit-switched network such as PSTN 108”, The circuit switched network (or PSTN) is a line-switched network.]; and

said second communication network is a packet-switched network [Cooklev, fig. 2, element 102, column 6, line 62, “A packet network 102”]; and wherein

said decision means comprises:

second decision means for deciding on whether encoded data from said packet-switched network have been delayed in arriving or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, “The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los”, The packet processor decides if there is delay (out of order) or packet loss.].

Cooklev et al. does not teach second control means for performing control so that, if the result of said decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, encoded data for causing a destination terminal of transmission on the side of said line-switched network to execute error concealment processing is generated, or the encoded data delayed in arrival is discarded.

However, Joseph et al. teaches second control means for performing control so that, if the result of said decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, encoded data for causing a destination terminal of transmission on the side of said line-switched network to execute error

concealment processing is generated, or the encoded data delayed in arrival is discarded [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, "The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a failure can be detected, some data may be lost during the switchover time", Since modem failure caused the switchover, some data will be lost as a result.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64] in the analogous art of media gateways.

13. **As per claim 51,** Cooklev in view of Joseph et al. teaches the gateway apparatus according to claim 49. Cooklev also teaches wherein

said decision means comprises:

second decision means for deciding on whether encoded data from said packet-switched network have been delayed in arriving or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, "The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los", The packet processor decides if there is delay (out of order) or packet loss.]; and

second control means for performing control so that, if the result of said decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, encoded data for causing a destination terminal of transmission on the side of said line-switched network to execute error concealment processing is generated, or the encoded data delayed in arrival is discarded [Cooklev, fig. 5, column 9, element 710, column 9, lines 47-51, “Upon detection of a lost packet, the packet processor 704 determines the importance of the lost packet. If the lost packet is "important," the missing packet reconstruction block or process 710 tries to recover a lower-quality version of the lost data from other packets”, If the packet is lost and deemed important, then the error concealment process begins to replicate a low quality version of the lost packet.].

14. **As per claim 52,** Cooklev teaches a gateway apparatus for conducting connection between a first communication network and a second communication network of respective different types [Cooklev, fig. 2, elements 102, 104, & 108, column 5, lines 21-25, "Since the real time multimedia data is ultimately destined for a client that accesses the packet-switched network via a direct dialup network, the packet-switched network must interface with a gateway that is coupled to the circuit-switched network", The gateway connects a PSTN (circuit-switched network) to a packet-switched network.], said apparatus comprising:

decision means for deciding on whether encoded data from at least one of said first and second communication networks has been delayed in arrival or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, “The packet processor 704 extracts the

sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los", The packet processor decides if there is delay (out of order) or packet loss.];

control means for performing control so that, if the result of said decision indicates that the encoded data from at least one of said first and second communication networks has been delayed in arrival or lost, data is generated by error concealment processing, or data acquired is discarded [Cooklev, fig. 5, column 9, element 710, column 9, lines 47-51, "Upon detection of a lost packet, the packet processor 704 determines the importance of the lost packet. If the lost packet is "important," the missing packet reconstruction block or process 710 tries to recover a lower-quality version of the lost data from other packets", If the packet is lost and deemed important, then the error concealment process begins to replicate a low quality version of the lost packet.].

Cooklev does not teach decoding means for decoding encoded data from said at least one communication network, processed by said control means, and for outputting the resulting decoded data; and encoding means for encoding the data obtained from said error concealment processing by said control means, and said decoded data, in accordance with an encoding system different from the encoding system for said encoded data from said one communication network.

However, Joseph et al. teaches decoding means for decoding encoded data from said at least one communication network, processed by said control means, and for outputting the resulting decoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4,

lines 16-19, “Media gateway 12 may also decompress, decode, and reassemble terminating voice traffic (i.e., egress traffic) for handoff to PSTN 16 via the local carrier's network”, The packet traffic is decoded into data, where it is then encoded into voice traffic format for PSTN networks.]; and

encoding means for encoding the data obtained from said error concealment processing by said control means, and said decoded data, in accordance with an encoding system different from the encoding system for said encoded data from said one communication network [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19, “Media gateway 12 may also decompress, decode, and reassemble terminating voice traffic (i.e., egress traffic) for handoff to PSTN 16 via the local carrier's network”, The packet traffic is decoded into data, where it is then encoded into voice traffic format for PSTN networks.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev suggests a media gateway between a PSTN and IP network, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to convert between each network's encoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19] in the analogous art of media gateways.

15. **As per claim 53,** Cooklev in view of Joseph et al. teaches the gateway apparatus according to claim 52. Cooklev also teaches wherein

said first communication network is a line-switched network [Cooklev, fig. 2, element 108, column 6, lines 65-66, “a circuit-switched network such as PSTN 108”, The circuit switched network (or PSTN) is a line-switched network.]; and wherein

said second communication network is a packet-switched network [Cooklev, fig. 2, element 102, column 6, line 62, “A packet network 102”].

Cooklev does not teach said apparatus comprising: first decision means for deciding on whether the encoded data from said line-switched network have been delayed in arrival or lost; first control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded; first decoding means for decoding the encoded data from said line-switched network, as processed by said first control means, and for outputting the resulting decoded data; and first encoding means for encoding the data obtained from said error concealment processing from said first control means and said decoded data from said first decoding means in accordance with an encoding system different from the encoding system for said encoded data from said line-switched network.

However, Joseph et al. teaches said apparatus comprising:

first decision means for deciding on whether the encoded data from said line-switched network have been delayed in arrival or lost [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52, “A revertive switchover is a switchover that takes place after standby modem element 22 has been switched into service due to a failure of main

modem element 24", Once a modem has failed, data coming from the PSTN will be lost. In response to this, a switch is made from one modem to another.];

first control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, "The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a failure can be detected, some data may be lost during the switchover time", Since modem failure caused the switchover, some data will be lost as a result.];

first decoding means for decoding the encoded data from said line-switched network, as processed by said first control means, and for outputting the resulting decoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 12-16, "Media gateway 12 serves as an interface between the PSTN and IP network, and it may typically digitize, encode, and compress originating voice traffic (i.e., ingress traffic) into packets for transport over managed IP networks", The gateway decodes (digitizes) voice data from the PSTN and then encodes it into packets for the IP network.]; and

first encoding means for encoding the data obtained from said error concealment processing from said first control means and said decoded data from said first decoding means in accordance with an encoding system different from the encoding system for said encoded data from said line-switched network [Joseph, fig. 1, elements 12, 16, &

18, column 4, lines 12-16, “Media gateway 12 serves as an interface between the PSTN and IP network, and it may typically digitize, encode, and compress originating voice traffic (i.e., ingress traffic) into packets for transport over managed IP networks”, The gateway decodes (digitizes) voice data from the PSTN and then encodes it into packets for the IP network.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic and to convert between each network's encoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19 & fig. 3, elements 16, 22, & 24, column 5, lines 49-52 & 60-64] in the analogous art of media gateways.

16. **As per claim 54,** Cooklev in view of Joseph et al. teaches the gateway apparatus according to claim 52. Cooklev also teaches wherein

said first communication network is a line-switched network [Cooklev, fig. 2, element 108, column 6, lines 65-66, “a circuit-switched network such as PSTN 108”, The circuit switched network (or PSTN) is a line-switched network.]; and

said second communication network is a packet-switched network [Cooklev, fig. 2, element 102, column 6, line 62, “A packet network 102”]; and wherein

said apparatus comprises:

second decision means for deciding on whether the encoded data from said packet-switched network have been delayed in arrival or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, “The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los”, The packet processor decides if there is delay (out of order) or packet loss.].

Cooklev does not teach second control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded; second decoding means for decoding the encoded data from said packet-switched network, as processed by said second control means, and for outputting the resulting decoded data; and second encoding means for encoding the data obtained from said error concealment processing from said second control means and said decoded data from said second decoding means in accordance with an encoding system different from the encoding system for said encoded data from said packet-switched network.

However, Joseph et al. teaches second control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, “The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some

time, however short, must pass before a failure can be detected, some data may be lost during the switchover time", Since modem failure caused the switchover, some data will be lost as a result.];

second decoding means for decoding the encoded data from said packet-switched network, as processed by said second control means, and for outputting the resulting decoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19, "Media gateway 12 may also decompress, decode, and reassemble terminating voice traffic (i.e., egress traffic) for handoff to PSTN 16 via the local carrier's network", The packet traffic is decoded into data, where it is then encoded into voice traffic format for PSTN networks.]; and

second encoding means for encoding the data obtained from said error concealment processing from said second control means and said decoded data from said second decoding means in accordance with an encoding system different from the encoding system for said encoded data from said packet-switched network [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19, "Media gateway 12 may also decompress, decode, and reassemble terminating voice traffic (i.e., egress traffic) for handoff to PSTN 16 via the local carrier's network", The packet traffic is decoded into data, where it is then encoded into voice traffic format for PSTN networks.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a

media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic and to convert between each network's encoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19 & fig. 3, elements 16, 22, & 24, column 5, lines 60-64] in the analogous art of media gateways.

17. **As per claim 55,** Cooklev in view of Joseph et al. teaches the gateway apparatus according to claim 53. Cooklev also teaches wherein

said apparatus comprises:

second decision means for deciding on whether the encoded data from said packet-switched network have been delayed in arrival or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, “The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los”, The packet processor decides if there is delay (out of order) or packet loss.].

Cooklev does not teach second control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded; second decoding means for decoding the encoded data from said packet-switched network, as processed by said second control means, and for outputting the resulting decoded data; and second encoding means for encoding the data obtained from said error concealment processing from said second control means and said decoded data from said second decoding means in accordance

with an encoding system different from the encoding system for said encoded data from said packet-switched network.

However, Joseph et al. teaches second control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, “The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a failure can be detected, some data may be lost during the switchover time”, Since modem failure caused the switchover, some data will be lost as a result.];

second decoding means for decoding the encoded data from said packet-switched network, as processed by said second control means, and for outputting the resulting decoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19, “Media gateway 12 may also decompress, decode, and reassemble terminating voice traffic (i.e., egress traffic) for handoff to PSTN 16 via the local carrier's network”, The packet traffic is decoded into data, where it is then encoded into voice traffic format for PSTN networks.]; and

second encoding means for encoding the data obtained from said error concealment processing from said second control means and said decoded data from said second decoding means in accordance with an encoding system different from the encoding system for said encoded data from said packet-switched network [Joseph, fig.

1, elements 12, 16, & 18, column 4, lines 16-19, "Media gateway 12 may also decompress, decode, and reassemble terminating voice traffic (i.e., egress traffic) for handoff to PSTN 16 via the local carrier's network", The packet traffic is decoded into data, where it is then encoded into voice traffic format for PSTN networks.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic and to convert between each network's encoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19 & fig. 3, elements 16, 22, & 24, column 5, lines 60-64] in the analogous art of media gateways.

18. **As per claim 57,** Cooklev teaches the method for processing encoded data by a gateway apparatus according to claim 56. Cooklev also teaches wherein said first communication network is a line-switched network [Cooklev, fig. 2, element 108, column 6, lines 65-66, "a circuit-switched network such as PSTN 108", The circuit switched network (or PSTN) is a line-switched network.] and said second communication network is a packet-switched network [Cooklev, fig. 2, element 102, column 6, line 62, "A packet network 102"].

Cooklev et al. does not teach said method further comprising: (a1) a step of said gateway apparatus deciding on whether encoded data from said line-switched network has been delayed in arrival or lost; and (b1) a step of said gateway apparatus

generating encoded data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired in case the result of said decision indicates that data from said line- switched network has been delayed in arrival or lost.

However, Joseph et al. teaches said method further comprising:

(a1) a step of said gateway apparatus deciding on whether encoded data from said line-switched network has been delayed in arrival or lost [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52, "A revertive switchover is a switchover that takes place after standby modem element 22 has been switched into service due to a failure of main modem element 24", Once a modem has failed, data coming from the PSTN will be lost. In response to this, a switch is made from one modem to another.]; and

(b1) a step of said gateway apparatus generating encoded data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired in case the result of said decision indicates that data from said line-switched network has been delayed in arrival or lost [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, "The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a failure can be detected, some data may be lost during the switchover time", Since modem failure caused the switchover, some data will be lost as a result.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since

Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52 & 60-64] in the analogous art of media gateways.

19. **As per claim 59,** Cooklev in view of Joseph et al. teaches the method for processing encoded data by a gateway apparatus according to claim 57. Cooklev also teaches wherein said first communication network is a packet-switched network [Cooklev, fig. 2, element 102, column 6, line 62, "A packet network 102"] and said second communication network is a line-switched network [Cooklev, fig. 2, element 108, column 6, lines 65-66, "a circuit-switched network such as PSTN 108", The circuit switched network (or PSTN) is a line-switched network.]; said method further comprising:

(a2) a step of said gateway apparatus deciding on whether encoded data from said packet-switched network has been delayed in arrival or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, "The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los", The packet processor decides if there is delay (out of order) or packet loss.]; and

(b2) a step of said gateway apparatus generating data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired in case the result of said decision indicates that the encoded

data from said packet-switched network has been delayed in arrival or lost [Cooklev, fig. 5, column 9, element 710, column 9, lines 47-51, “Upon detection of a lost packet, the packet processor 704 determines the importance of the lost packet. If the lost packet is "important," the missing packet reconstruction block or process 710 tries to recover a lower-quality version of the lost data from other packets”, If the packet is lost and deemed important, then the error concealment process begins to replicate a low quality version of the lost packet.].

20. **As per claim 60,** Cooklev teaches a method for processing encoded data by a gateway apparatus for conducting connection between a first communication network and a second communication network of respective different types [Cooklev, fig. 2, elements 102, 104, & 108, column 5, lines 21-25, "Since the real time multimedia data is ultimately destined for a client that accesses the packet-switched network via a direct dialup network, the packet-switched network must interface with a gateway that is coupled to the circuit-switched network", The gateway connects a PSTN (circuit-switched network) to a packet-switched network.], comprising:

(a) a step of said gateway apparatus deciding on whether data from at least one of said first and second communication networks has been delayed in arriving or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, “The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los”, The packet processor decides if there is delay (out of order) or packet loss.]; and

(b) a step of said gateway apparatus generating data by error concealment processing or discarding encoded data acquired in case the result of said decision indicates that data from at least one of said first and second communication networks has been delayed in arrival or lost [Cooklev, fig. 5, column 9, element 710, column 9, lines 47-51, “Upon detection of a lost packet, the packet processor 704 determines the importance of the lost packet. If the lost packet is "important," the missing packet reconstruction block or process 710 tries to recover a lower-quality version of the lost data from other packets”, If the packet is lost and deemed important, then the error concealment process begins to replicate a low quality version of the lost packet.].

Cooklev does not teach (c) a step of said gateway apparatus decoding encoded data from said at least one communication network, processed in said step (b), and outputting decoded data; and (d) a step of said gateway apparatus encoding the data obtained by said error concealment processing and said decoded data in accordance with an encoding system different from that for encoded data from said one communication network and outputting the resulting data.

However, Joseph et al. teaches (c) a step of said gateway apparatus decoding encoded data from said at least one communication network, processed in said step (b), and outputting decoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19, “Media gateway 12 may also decompress, decode, and reassemble terminating voice traffic (i.e., egress traffic) for handoff to PSTN 16 via the local carrier's network”, The packet traffic is decoded into data, where it is then encoded into voice traffic format for PSTN networks.]; and

(d) a step of said gateway apparatus encoding the data obtained by said error concealment processing and said decoded data in accordance with an encoding system different from that for encoded data from said one communication network and outputting the resulting data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19, “Media gateway 12 may also decompress, decode, and reassemble terminating voice traffic (i.e., egress traffic) for handoff to PSTN 16 via the local carrier's network”, The packet traffic is decoded into data, where it is then encoded into voice traffic format for PSTN networks.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev suggests a media gateway between a PSTN and IP network, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to convert between each network's encoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19] in the analogous art of media gateways.

21. **As per claim 61,** Cooklev et al. in view of Joseph et al. teaches the method for processing encoded data by a gateway apparatus according to claim 60. Cooklev et al. also teaches wherein

said first communication network is a line-switched network [Cooklev, fig. 2, element 108, column 6, lines 65-66, “a circuit-switched network such as PSTN 108”, The circuit switched network (or PSTN) is a line-switched network.]; and

said second communication network is a packet-switched network [Cooklev, fig. 2, element 102, column 6, line 62, “A packet network 102”];

Cooklev does not teach said method further comprising: (a1) a step of said gateway apparatus deciding on whether encoded data from said line-switched network has been delayed in arrival or lost; (b1) a step of said gateway apparatus generating data by error concealment processing or discarding encoded data acquired in case the result of said decision indicates that the encoded data from said line-switched network has been delayed in arriving or lost; (c1) a step of said gateway apparatus decoding encoded data from said line-switched network, processed in said step (b1) and outputting the resulting decoded data; and (d1) a step of said gateway apparatus encoding the data obtained by said error concealment processing and said decoded data in accordance with an encoding system different from that for encoded data from said line-switched network and outputting the resulting data

However, Joseph et al. teaches said method further comprising:

(a1) a step of said gateway apparatus deciding on whether encoded data from said line-switched network has been delayed in arrival or lost [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52, “A revertive switchover is a switchover that takes place after standby modem element 22 has been switched into service due to a failure of main modem element 24”, Once a modem has failed, data coming from the PSTN will be lost. In response to this, a switch is made from one modem to another.]; and

(b1) a step of said gateway apparatus generating data by error concealment processing or discarding encoded data acquired in case the result of said decision indicates that the encoded data from said line-switched network has been delayed in arriving or lost [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, “The

switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a failure can be detected, some data may be lost during the switchover time", Since modem failure caused the switchover, some data will be lost as a result.];

(c1) a step of said gateway apparatus decoding encoded data from said line-switched network, processed in said step (b1) and outputting the resulting decoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 12-16, "Media gateway 12 serves as an interface between the PSTN and IP network, and it may typically digitize, encode, and compress originating voice traffic (i.e., ingress traffic) into packets for transport over managed IP networks", The gateway decodes (digitizes) voice data from the PSTN and then encodes it into packets for the IP network.]; and

(d1) a step of said gateway apparatus encoding the data obtained by said error concealment processing and said decoded data in accordance with an encoding system different from that for encoded data from said line-switched network and outputting the resulting data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 12-16, "Media gateway 12 serves as an interface between the PSTN and IP network, and it may typically digitize, encode, and compress originating voice traffic (i.e., ingress traffic) into packets for transport over managed IP networks", The gateway decodes (digitizes) voice data from the PSTN and then encodes it into packets for the IP network.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that

performs error handling for packets, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic and to convert between each network's encoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19 & fig. 3, elements 16, 22, & 24, column 5, lines 49-52 & 60-64] in the analogous art of media gateways.

22. **As per claim 62,** Cooklev in view of Joseph et al. teaches the method for processing encoded data by a gateway apparatus according to claim 60. Cooklev also teaches wherein said first communication network is a line-switched network [Cooklev, fig. 2, element 108, column 6, lines 65-66, "a circuit-switched network such as PSTN 108", The circuit switched network (or PSTN) is a line-switched network.] and said second communication network is a packet-switched network [Cooklev, fig. 2, element 102, column 6, line 62, "A packet network 102"]; said method further comprising:

(a2) a step of said gateway apparatus deciding on whether encoded data from said packet-switched network has been delayed in arrival or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, "The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los", The packet processor decides if there is delay (out of order) or packet loss.]; and

(b2) a step of said gateway apparatus generating data by error concealment processing or discarding encoded data delayed in arriving in case the result of said decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost [Cooklev, fig. 5, column 9, element 710, column 9, lines 47-51,

“Upon detection of a lost packet, the packet processor 704 determines the importance of the lost packet. If the lost packet is "important," the missing packet reconstruction block or process 710 tries to recover a lower-quality version of the lost data from other packets”, If the packet is lost and deemed important, then the error concealment process begins to replicate a low quality version of the lost packet.].

Cooklev does not teach (c2) a step of said gateway apparatus decoding encoded data from said packet- switched network, processed in said step (b2), and outputting the resulting decoded data; and (d2) a step of said gateway apparatus encoding the data obtained by said error concealment processing and said decoded data in accordance with an encoding system different from that for encoded data from said packet-switched network, and outputting the resulting data.

However, Joseph et al. teaches (c2) a step of said gateway apparatus decoding encoded data from said packet- switched network, processed in said step (b2), and outputting the resulting decoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19, “Media gateway 12 may also decompress, decode, and reassemble terminating voice traffic (i.e., egress traffic) for handoff to PSTN 16 via the local carrier's network”, The packet traffic is decoded into data, where it is then encoded into voice traffic format for PSTN networks.]; and

(d2) a step of said gateway apparatus encoding the data obtained by said error concealment processing and said decoded data in accordance with an encoding system different from that for encoded data from said packet-switched network, and outputting the resulting data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19, “Media

gateway 12 may also decompress, decode, and reassemble terminating voice traffic (i.e., egress traffic) for handoff to PSTN 16 via the local carrier's network", The packet traffic is decoded into data, where it is then encoded into voice traffic format for PSTN networks.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev suggests a media gateway between a PSTN and IP network, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to convert between each network's encoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19] in the analogous art of media gateways.

23. **As per claim 71,** The method for processing encoded data by a gateway apparatus according to claim 61, said method further comprising:

(a2) a step of said gateway apparatus deciding on whether encoded data from said packet-switched network has been delayed in arrival or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, "The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los", The packet processor decides if there is delay (out of order) or packet loss.; and

(b2) a step of said gateway apparatus generating data by error concealment processing or discarding encoded data delayed in arriving in case the result of said decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost [Cooklev, fig. 5, column 9, element 710, column 9, lines 47-51,

“Upon detection of a lost packet, the packet processor 704 determines the importance of the lost packet. If the lost packet is "important," the missing packet reconstruction block or process 710 tries to recover a lower-quality version of the lost data from other packets”, If the packet is lost and deemed important, then the error concealment process begins to replicate a low quality version of the lost packet.];

Cooklev et al. does not teach (c2) a step of said gateway apparatus decoding encoded data from said packet- switched network, processed in said step (b2), and outputting the resulting decoded data; and (d2) a step of said gateway apparatus encoding the data obtained by said error concealment processing and said decoded data in accordance with an encoded system different from that for encoded data from said packet-switched network, and outputting the resulting data.

However, Joseph et al. teaches (c2) a step of said gateway apparatus decoding encoded data from said packet- switched network, processed in said step (b2), and outputting the resulting decoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19, “Media gateway 12 may also decompress, decode, and reassemble terminating voice traffic (i.e., egress traffic) for handoff to PSTN 16 via the local carrier's network”, The packet traffic is decoded into data, where it is then encoded into voice traffic format for PSTN networks.]; and

(d2) a step of said gateway apparatus encoding the data obtained by said error concealment processing and said decoded data in accordance with an encoded system different from that for encoded data from said packet-switched network, and outputting the resulting data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19, “Media

gateway 12 may also decompress, decode, and reassemble terminating voice traffic (i.e., egress traffic) for handoff to PSTN 16 via the local carrier's network", The packet traffic is decoded into data, where it is then encoded into voice traffic format for PSTN networks.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev suggests a media gateway between a PSTN and IP network, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to convert between each network's encoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19] in the analogous art of media gateways.

Allowable Subject Matter

24. Claims 64-67 & 69 are allowed.

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The reference Nakajima (US PG Pub 2003/0179760) teaches a signal conversion unit that operates between a circuit-switched and an IP network.

The reference Alperovich et al. (US Patent No. 6,751,477) teaches a media gateway that lies between an IP network and a PSTN network. Alperovich et al. also teaches that the gateway can adjust the delay or data loss through the use of a codec.

26. **Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Masur whose telephone number is (571) 270-7297.** The examiner can normally be reached on Monday through Friday from 7:00AM to 4:30PM (Eastern Time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. M./
Examiner, Art Unit 2416

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit 2416